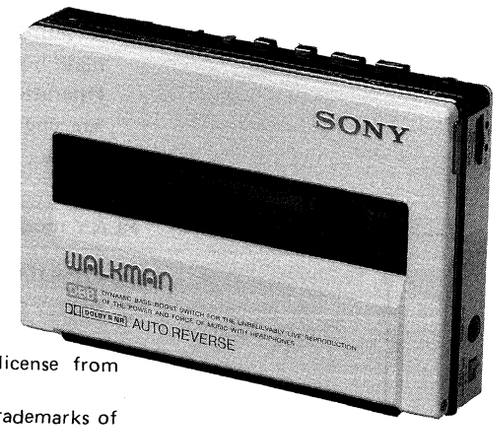
WM-150

SERVICE MANUAL

AEP Model
UK Model
E Model



Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol DD are trademarks of Dolby Laboratories Licensing Corporation.

SPECIFICATIONS

Frequency response (DOLBY NR OFF)
20–18,000 Hz (with the TAPE selector set to NORM or CrO_2/METAL)

Output
Earphones (stereo minijack) load impedance 8–300Ω

Power output
5mW+5mW at DC operation (at 10% harmonic distortion) loard impedance 16Ω

Power requirements
1.5V DC
Rechargeable battery
One R6 (size AA) battery
DC IN 1.5V jack accepts (Using battery case):
Sony AC-D1M power adaptor (optional)
Sony EBP-10 battery case (optional) for use with two R6 (size AA) batteries
Sony DCC-70 car battery cord (optional) for use with 12V car battery

Battery life (DOLBY NR OFF)

Battery	Tape playback
Rechargeable NC-6WM (fully charged)	Approx. 4 hours
Sony alkaline battery AM3 (N)	Approx. 7.5 hours
Sony battery SUM-3 (NS)	Approx. 3 hours
Rechargeable NC-6WM + Sony AM3 (N)	Approx. 11 hours

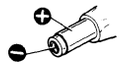
For maximum performance we recommend the use of alkaline batteries.

Dimensions
Approx. 106.4×70.1××22.1mm (w/h/d) not incl. projecting parts and controls
Approx. 108×74.4×22.6mm (w/h/d) incl. projecting parts and controls

Weight
Approx. 185g incl. rechargeable battery, not incl. other accessories

Accessories supplied
Battery case (1) Carrying case (1)
Battery charger (1) Rechargeable battery (1)
Stereo earphones (1)
AC plug adaptor (1) (E model)

Note: Use only the recommended AC power adaptor or car battery cord manufactured by Sony. Polarity of the plugs of other manufacturers may be different.

Polarity of the Sony plug 

MICROFILM

Model Name Using Similar Mechanism	New Mechanism
Tape Transport Mechanism Type	MT-WM150-01

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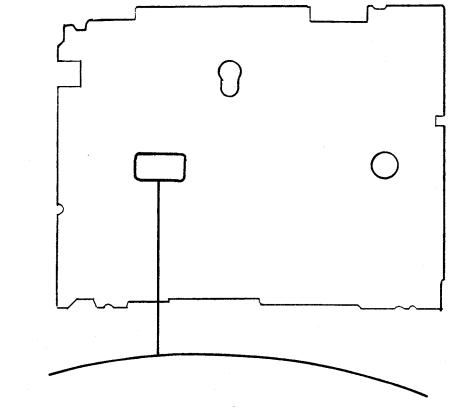
CASSETTE PLAYER

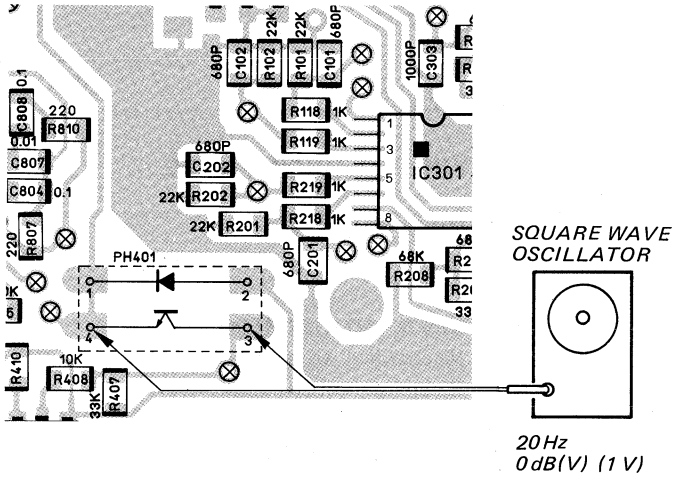
SONY®

SECTION 1
SERVICING NOTE

- This set detects FF/REW by PM401 (photo interrupter). FF/REW cannot be detected when the main board is removed, because PM401 is mounted on the main board. Therefore, the auto off circuit and tape end detection will misoperate.
  Operation check for FF or REW can be done by the method shown below even when the main board is removed.

main board (side B)





- This set cannot operate when the main board is removed, because S401 (PLAY, FF/REW switch) and S402 (PLAY switch) are mounted on the main board. (S401 and S402 are linked to the ▶ , ▶▶ and ◀◀ buttons in the mechanism deck.) Solder jumper points for S401 and S402 are provided on the main board.
  Operation check in the mechanism deck and voltage check can be performed by the method shown below.

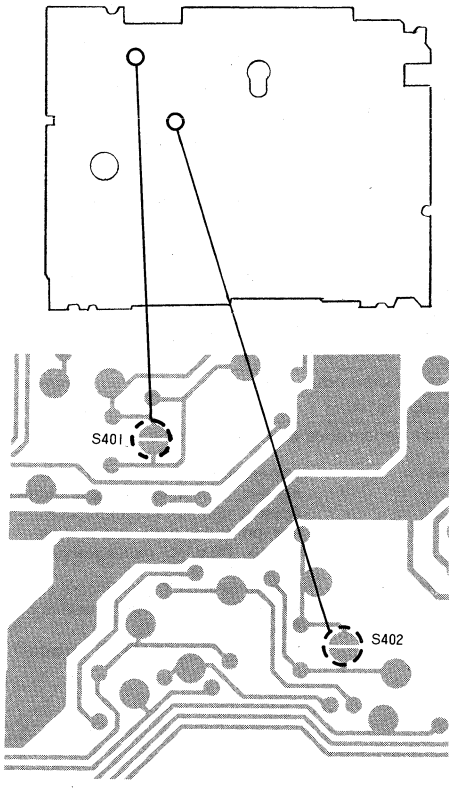
PLAY mode

1. Press the ▶ button.
2. Solder S401 and S402 solder jumper points.

FF/REW mode

1. Press the ▶▶ or ◀◀ button.
2. Solder S401 solder jumper points.
3. Apply the square wave to the PH401.
   (See left figure.)

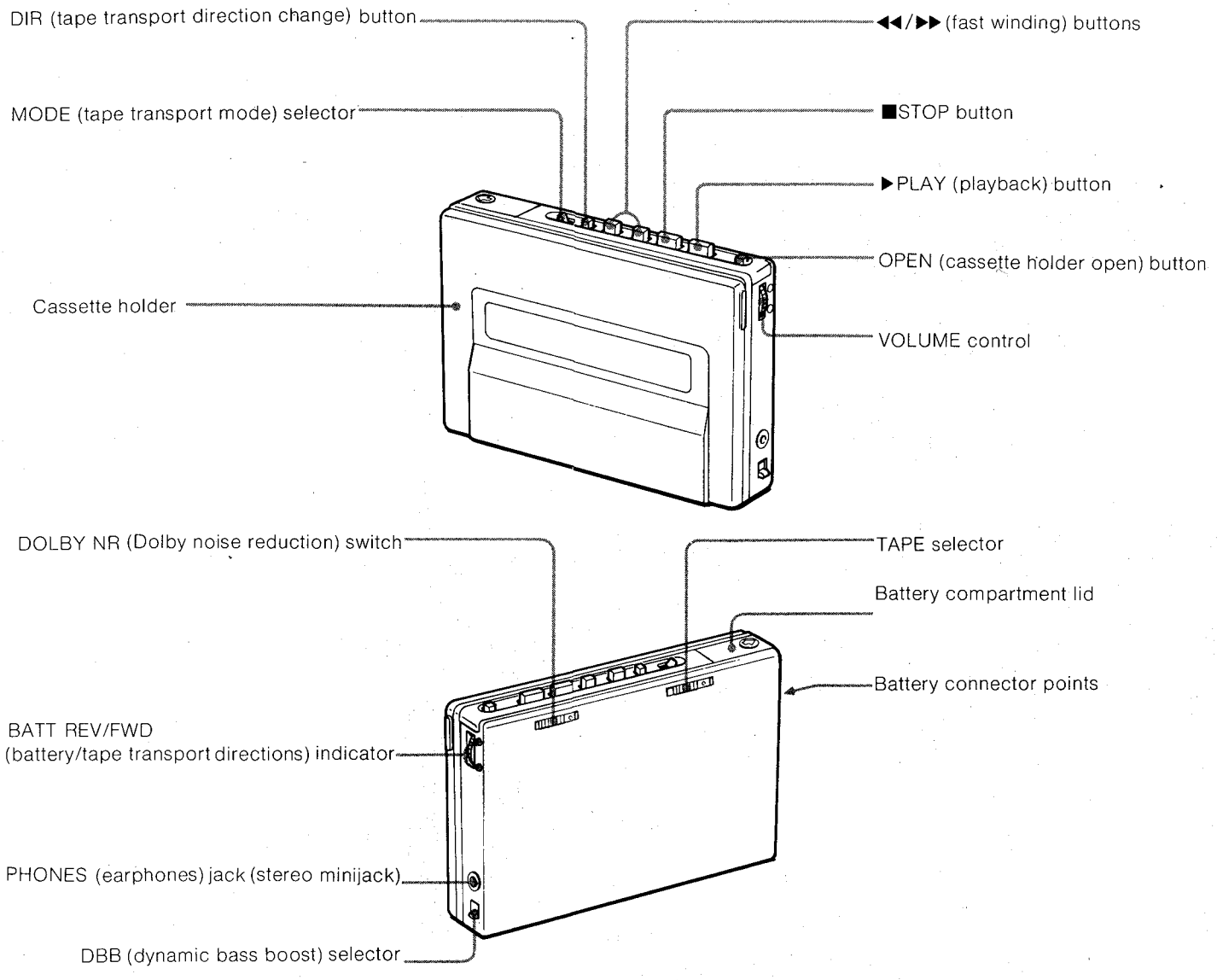
main board (side A)



Note) After checking, be sure to remove the solder jumpers.

SECTION 2
GENERAL

LOCATION AND FUNCTION OF CONTROLS



Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270°C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

SECTION 3
ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denaturedalcohol-moistened swab:
   playback head — rubber belts
   capstan — idlers
   pinch roller
2. Demagnetize the playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage (1.3 V) unless otherwise noted.

Torque Measurement

Mode	Torque Meter	Meter Reading
FWD	CQ-102C	20–38 g·cm 0.28–0.52 oz·inch
FWD Back Tension		0.5–3.5 g·cm 0.01–0.04 oz·inch
REV	CQ-102RB	20–38 g·cm 0.28–0.52 oz·inch
REV Back Tension		0.5–3.5 g·cm 0.01–0.04 oz·inch
FF	CQ-201B	more than 60 g·cm more than 0.84 oz·inch
REW		more than 60 g·cm more than 0.84 oz·inch

Tape Pulling Force Measurement

Mode	Tension Meter	Meter Reading
FWD	CQ-403A	more than 40 g more than 1.41 oz
REV	CQ-403R	more than 40 g more than 1.41 oz

3-2. ELECTRICAL ADJUSTMENTS

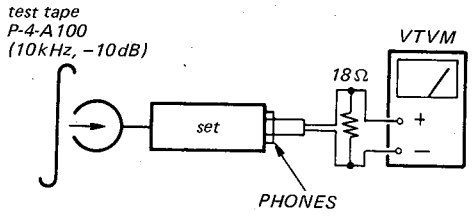
TEST TAPE

Type	Signal	Used for
WS-48A	3 kHz, 0 dB	Tape Speed Adjustment
P-4-A100	10 kHz, –10 dB	Playback Head Azimuth check
P-4-A063	6.3 kHz, –10 dB	
P-4-L300	315 Hz, 0 dB	Playback Level Adjustment

Playback Head Azimuth Check

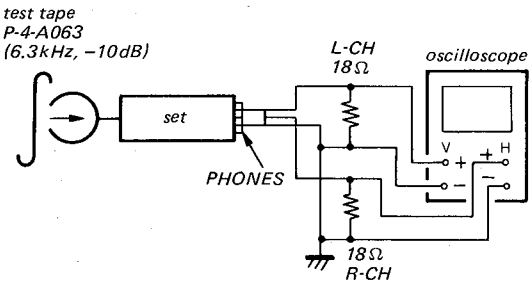
Note: This set is not featured the head azimuth adjustment.
When replacing the head, check the both L-ch and R-ch output levels and also those phases.

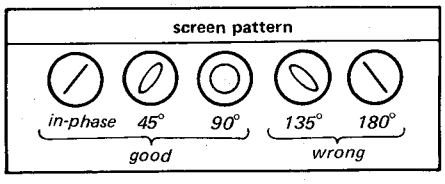
Procedure:
1. Playback mode.



1) Play back the P-4-L100 in FWD mode and read the VTVM (both L-ch and R-ch).
2) Change to REV mode and read the VTVM. (both L-ch and R-ch).
3) Confirm that the level difference between step 1 and 2 is within 5 dB (both L-ch and R-ch).

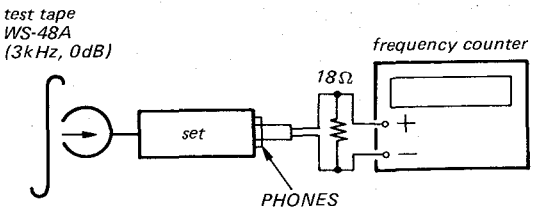
2. Phase Check





Tape Speed Adjustment

Procedure:



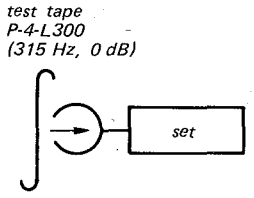
1. Playback WS-48A (tape center portion) in FWD mode. Adjust the RV601 so that the frequency counter reads 3,000 Hz ±15 Hz.
2. Playback WS-48A (tape center portion) in REV mode. Confirm that the reading of frequency counter is within 2.5% from the reading in step 1.

Playback Level Adjustment

DOLBY NR switch.	OFF
VOL knob	minimum
DBB switch	NORM
TAPE	NORM

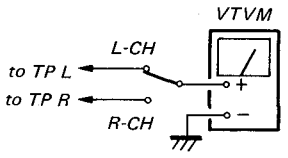
Procedure:

1. Playback mode.



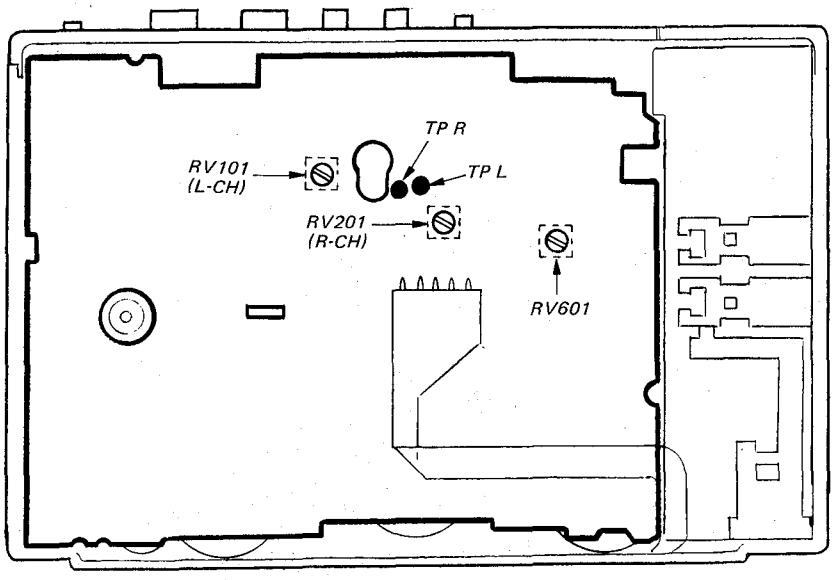
2. Adjust RV101(L-CH), RV201(R-CH) so that the VTVM reading is −32.7 ±1.0dB(0.02V−0.017V)

Adjustment Location: MAIN BOARD (SIDE A)



Adjustment Parts Location Diagram

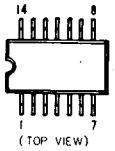
MAIN BOARD (SIDE A)



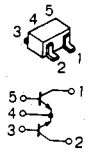
SECTION 4
DIAGRAMS

4-1. SEMICONDUCTOR LEAD LAYOUTS

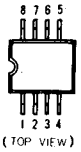
CXA1249M
LA4538TP1



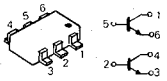
XN1215
XN1401
XN1501



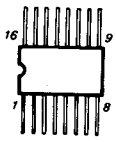
LAG674F



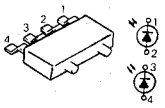
XN4608



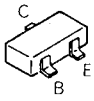
TA7793FN-EL
TA7795FNER



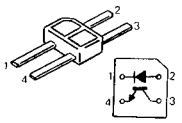
GL102R5S



DTC114TU
2SA1611-M6
2SB1295-UL6



NJL5161K-A



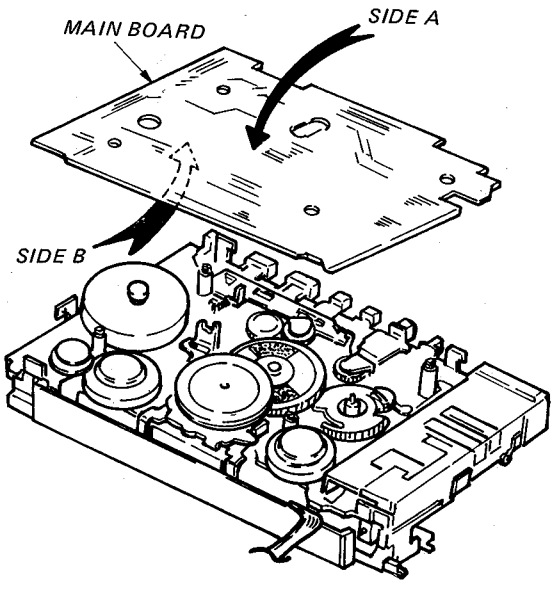
Note on Printed Wiring Boards

- ○—— : parts extracted from the component side.
- ●—— : parts extracted from the conductor side.
- ■ : parts mounted on the conductor side.
- [ ]← indicates side identified with part number.
- ▒▒▒ : Pattern on the side which is seen. (SIDE B)
- ▒▒▒ : Pattern on the side . (SIDE A)

Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- B+ : B+ bus.
- ▭ : adjustment for repair.
- Total current is messured with no cassette installed.
- Power voltage is dc 1.3V and fed with regulated dc power supply from battery terminal.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark: PLAY
  ( ): FF/REW
- Voltages are taken with a VOM (50kΩ/V).
  Voltage variations may be noted due to normal production tolerances.
- Signal path.
  Σ : PB
- Switch

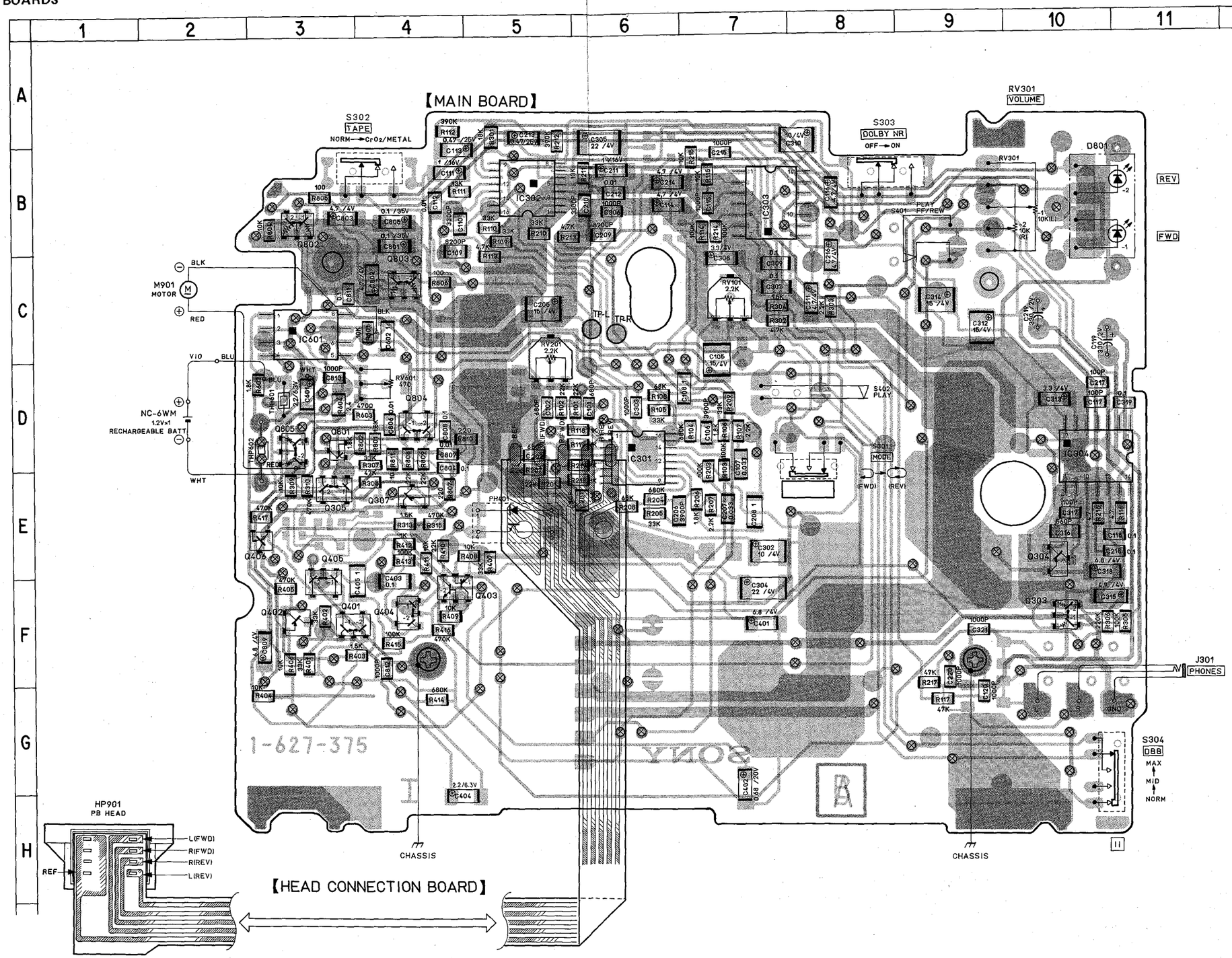
Ref. No.	Switch	Position
S301	FWD/REV	FWD
S302	TAPE	NORM
S303	DOLBY NR	OFF
S304	DBB	NORM
S401	PLAY, FF REW	OFF
S402	PLAY	OFF

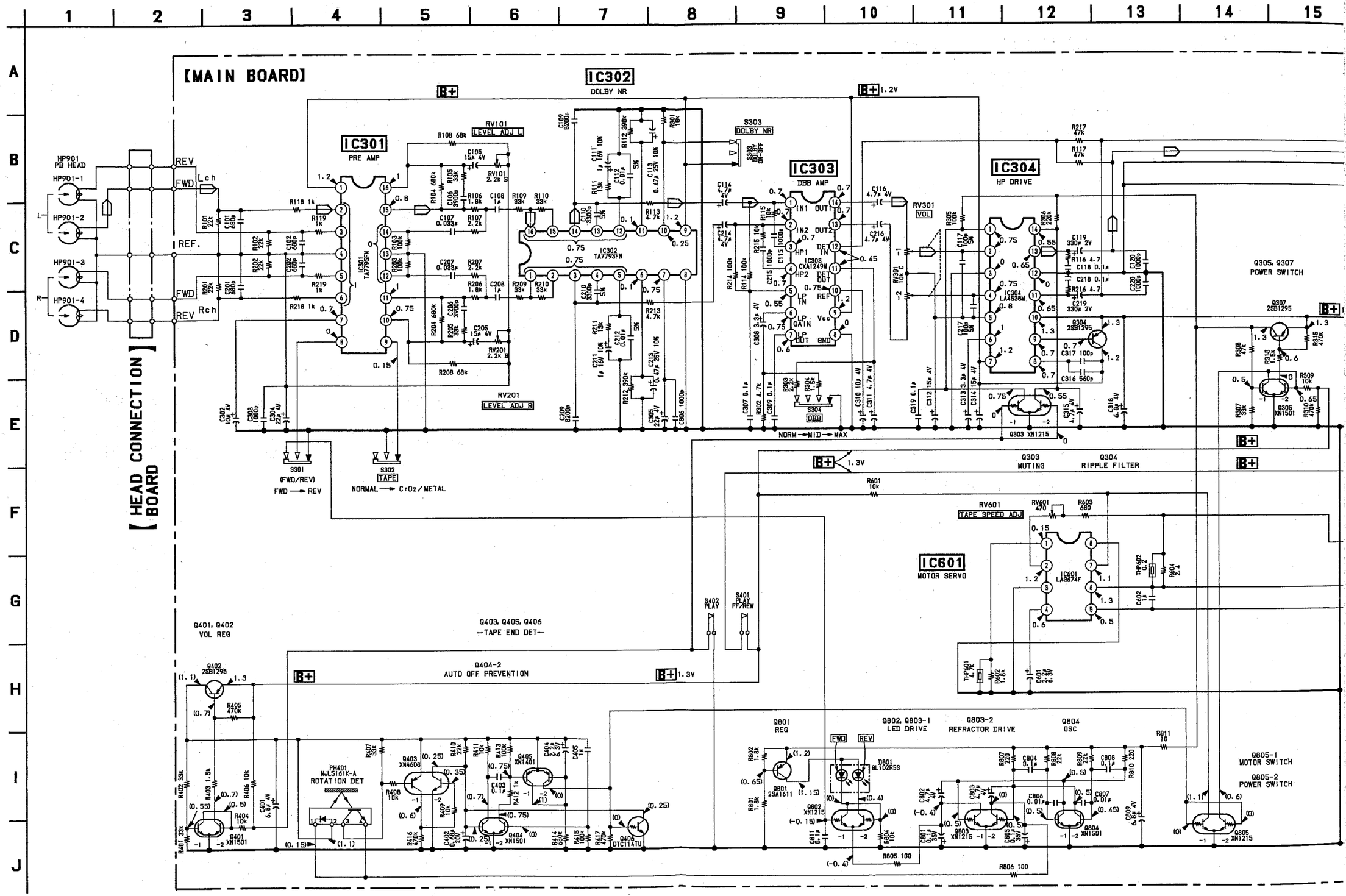


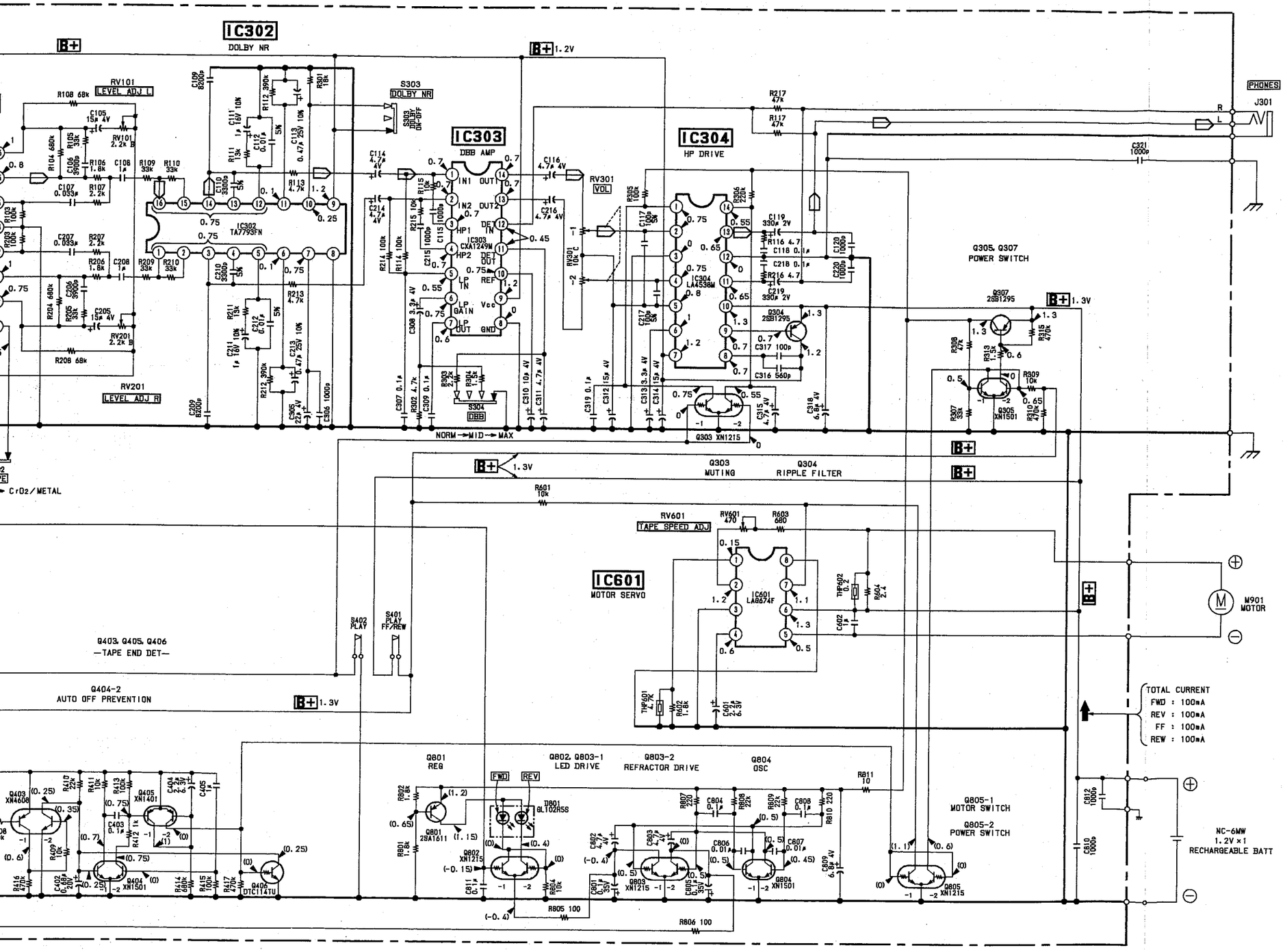
4-2. PRINTED WIRING BOARDS

- **Semiconductor Location**

Ref. No.	Location
D801	B-10
IC301	D-6
IC302	B-5
IC303	B-7
IC304	D-10
IC601	C-3
PH401	E-5
Q303	F-10
Q304	E-10
Q305	D-3
Q307	E-4
Q401	F-3
Q402	F-3
Q403	E-4
Q404	F-4
Q405	E-3
Q406	E-3
Q801	D-3
Q802	B-3
Q803	C-4
Q804	D-4
Q805	D-3
PH401	E-5

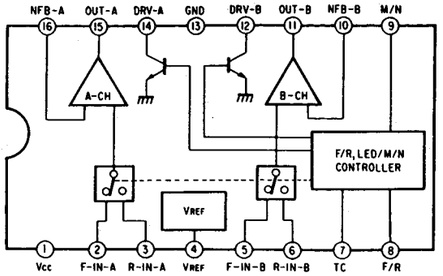



【MAIN BOARD】
【HEAD CONNECTION BOARD】
IC301
PRE AMP
IC302
DOLBY NR
IC303
DBB AMP
IC304
HP DRIVE
IC601
MOTOR SERVO
HP901
PB HEAD
HP901-1
HP901-2
HP901-3
HP901-4
REV
FWD
Lch
REF.
Rch
RV101
LEVEL ADJ L
RV201
LEVEL ADJ R
S303
DOLBY NR
DOLBY OFF
ON-OFF
RV301
VOL
S301
(FWD/REV)
FWD → REV
S302
TAPE
NORMAL → CrO2/METAL
S304
DBB
NORM → MID → MAX
Q303
MUTING
Q304
RIPPLE FILTER
RV601
TAPE SPEED ADJ
Q305, Q307
POWER SWITCH
Q303 XN1215
Q305 XN1501
Q401, Q402
VOL REG
Q403, Q405, Q406
—TAPE END DET—
Q404-2
AUTO OFF PREVENTION
S402
PLAY
S401
PLAY
FF/REW
PH401
NJL5161K-A
ROTATION DET
Q801
REG
Q802, Q803-1
LED DRIVE
Q803-2
REFRACTOR DRIVE
Q804
OSC
D801
BL102RSS
FWD
REV
Q805-1
MOTOR SWITCH
Q805-2
POWER SWITCH
B+
B+1.2V
B+1.3V
1.3V

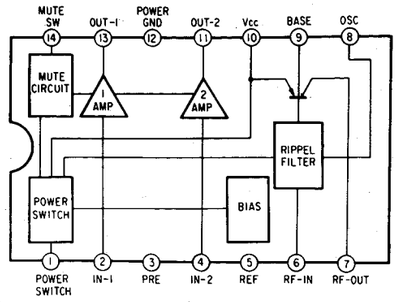

IC302
DOLBY NR
IC303
DBB AMP
IC304
HP DRIVE
IC601
MOTOR SERVO
B+
B+1.2V
B+1.3V
RV101
LEVEL ADJ L
RV201
LEVEL ADJ R
S303
DOLBY NR
S304
DBB
RV301
VOL
RV601
TAPE SPEED ADJ
PHONES
J301
Q305, Q307
POWER SWITCH
Q303
MUTING
Q304
RIPPLE FILTER
Q403, Q405, Q406
—TAPE END DET—
Q404-2
AUTO OFF PREVENTION
S402
PLAY
S401
PLAY
FF/REV
Q801
REG
Q802, Q803-1
LED DRIVE
Q803-2
REFRACTOR DRIVE
Q804
OSC
Q805-1
MOTOR SWITCH
Q805-2
POWER SWITCH
M901
MOTOR
TOTAL CURRENT
FWD : 100mA
REV : 100mA
FF : 100mA
REW : 100mA
NC-6MW
1.2V×1
RECHARGEABLE BATT
NORM→MID→MAX
CrO2/METAL

4-4. IC BLOCK DIAGRAM

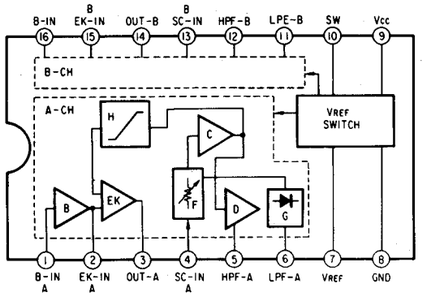
● IC301 TA7795FN



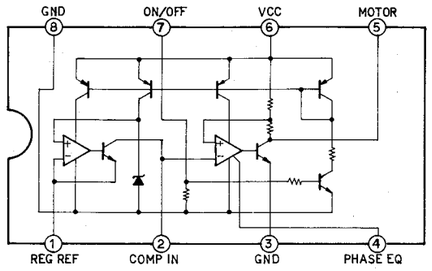
● IC304 LA4583M



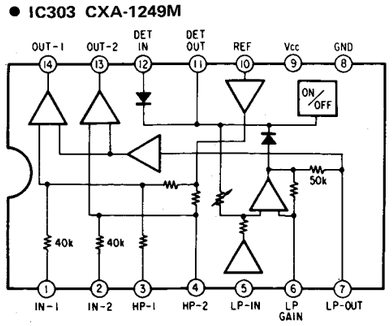
● IC302 TA7793FN



● IC601 LAG674F



● IC303 CXA-1249M



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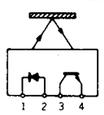
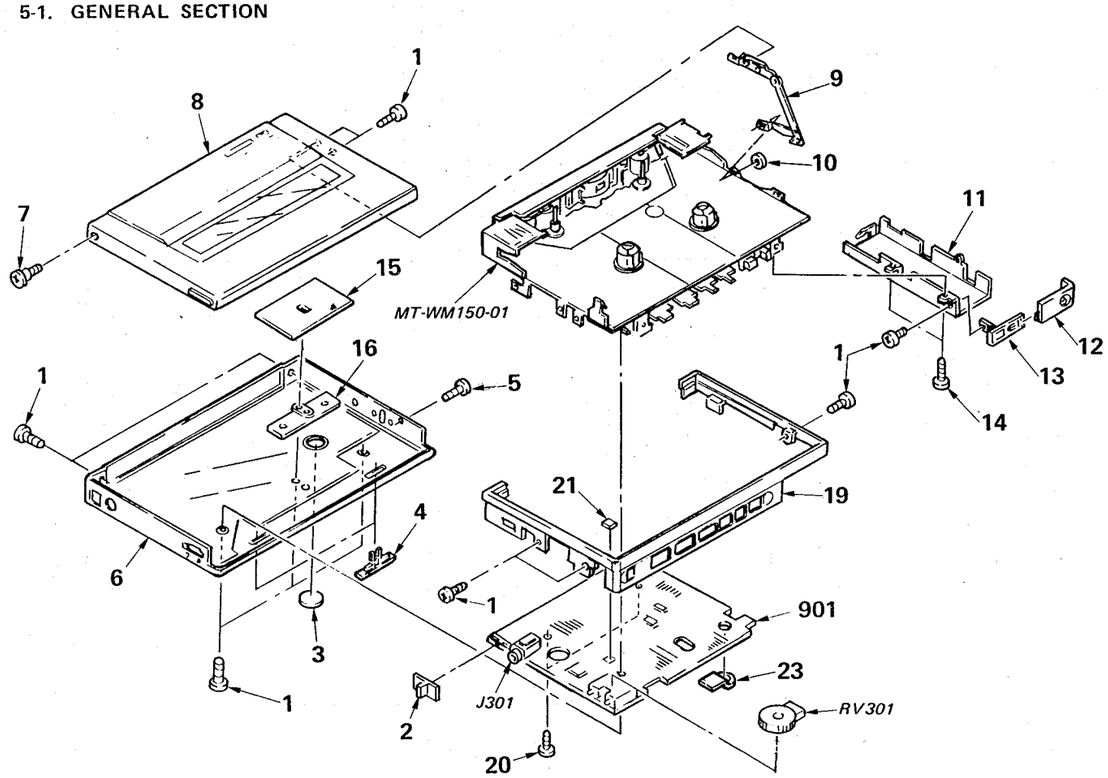


SECTION 5
EXPLODED VIEWS

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts
  Example:
  (RED) . . . KNOB, BALANCE (WHITE)
  ↑ ↑
  Cabinet's Color Parts Color

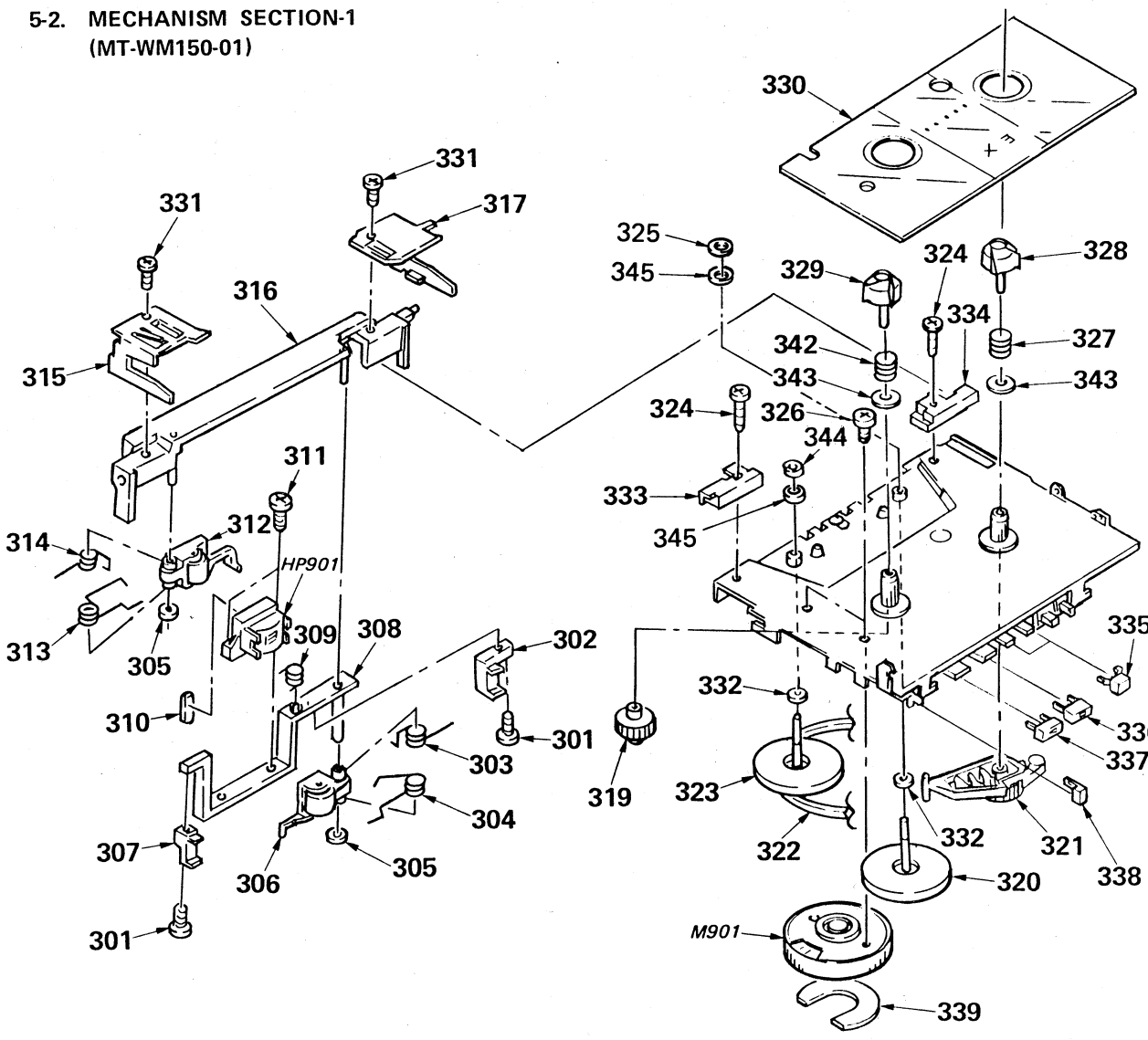
5-1. GENERAL SECTION



No.	Part No.	Description	Remarks
1	3-704-197-11	SCREW (M1.4X2.0), NYLON	
2	3-348-186-01	KNOB (DBB)	
3	3-342-380-01	(BLACK)...SHEET, SPEED HOLE	
	3-342-380-21	(WHITE)...SHEET, SPEED HOLE	
4	3-348-187-01	KNOB (TAPE)	
5	3-704-197-51	SCREW (M1.4X3.5), NYLON	
6	X-3348-118-1	(BLACK)...CASE ASSY	
	X-3348-120-1	(WHITE)...CASE ASSY	
7	3-704-260-01	SCREW	
8	X-3348-114-1	(BLACK)...LID ASSY, CASSETTE	
	X-3348-116-1	(WHITE)...LID ASSY, CASSETTE	

No.	Part No.	Description	Remarks
9	X-3348-123-1	ARM ASSY, CLICK	
10	3-325-394-01	WASHER, STOPPER	
11	X-3348-122-1	HOLDER ASSY, BATTERY	
12	3-348-192-01	LID, BATTERY CASE	
13	X-3348-113-1	BOARD ASSY, TERMINAL, BATTERY	
14	3-704-197-31	SCREW (M1.4X3.0), NYLON	
15	3-348-954-01	SHEET (G), INSULATING	
16	3-348-946-01	BRACKET (G)	
19	3-348-196-01	ORNAMENT, REEL	
20	3-704-197-01	SCREW (M1.4X2), TOOTHED LOCK	
21	3-703-929-01	SPACER (P)	
23	3-348-964-01	PLATE, GROUND	
901	A-3070-246-A	MOUNTED PCB, AUDIO	
J301	1-565-436-11	JACK (PHONES)	
RV301	1-238-200-11	RES, VAR, CARBON 10K/10K (VOLUME)	

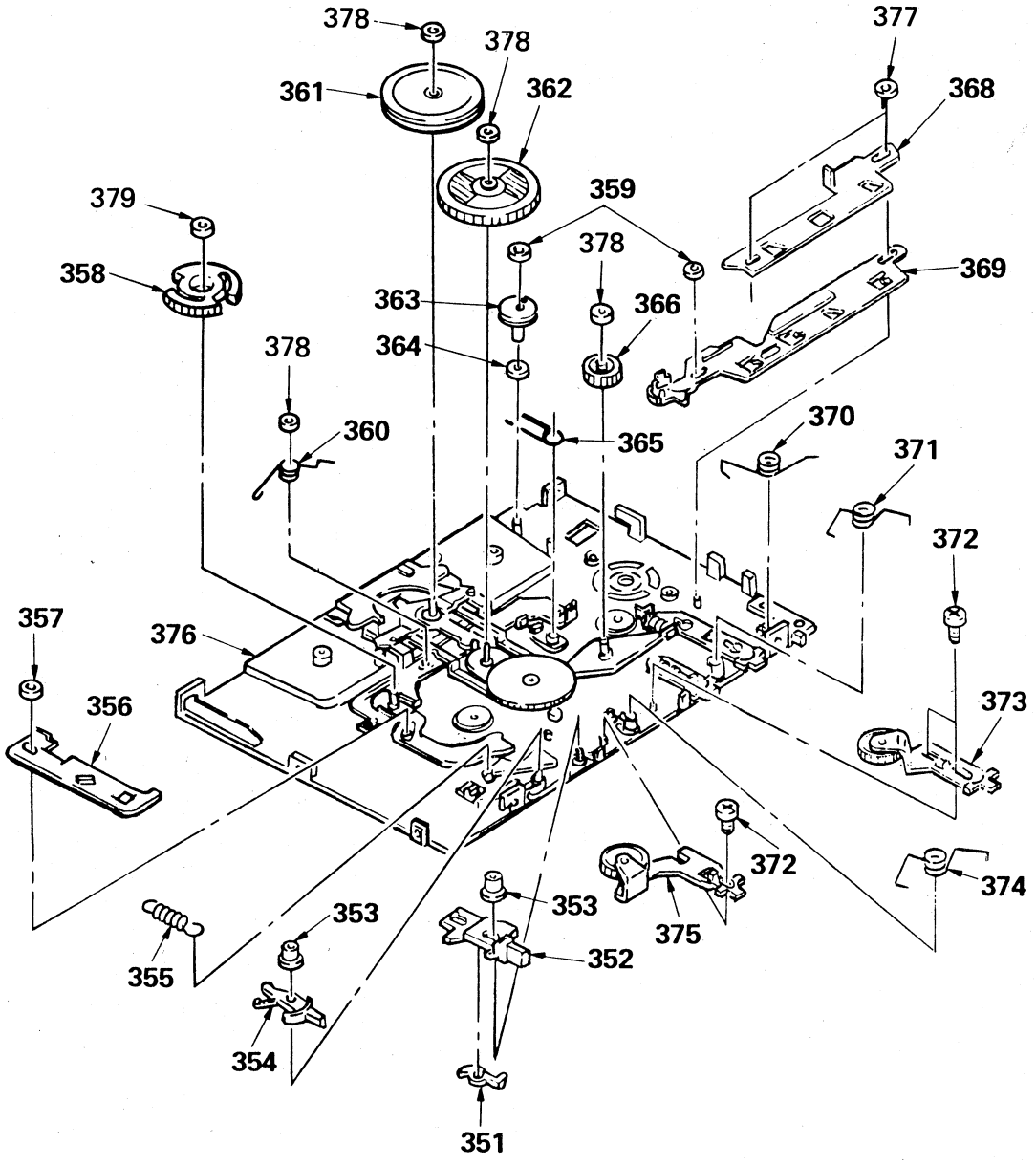
5-2. MECHANISM SECTION-1 (MT-WM150-01)



No.	Part No.	Description	Remarks
301	3-348-998-31	SCREW (M1.4X2.5), TAPPING, PAN	
302	*3-344-693-01	GUIDE (LEFT)	
303	3-341-468-01	SPRING (R)	
304	3-348-970-01	SPRING (PINCH R)	
305	3-341-473-01	WASHER (MP)	
306	X-3331-035-1	PINCH LEVER (R) ASSY	
307	*3-344-694-01	GUIDE (RIGHT)	
308	*3-345-725-01	LEVER (AZ), HEAD	
309	3-347-205-01	SPRING (HD LEVER), TORSION	
310	*3-338-667-01	SHEET, ADHESIVE, DOUBLE-FACE	
311	3-348-998-71	SCREW (M1.4X4.5), TAPPING, PAN	
312	X-3331-036-1	PINCH LEVER (N) ASSY	
313	3-348-971-01	SPRING (PINCH N)	
314	3-341-469-01	SPRING (N)	
315	3-342-360-01	HOLDER (RIGHT), CASSETTE	
316	X-3348-112-1	HOLDER (SZ) ASSY	
317	3-342-361-01	HOLDER (LEFT), CASSETTE	
319	3-348-151-01	GEAR (TAKE-UP REEL)	
320	X-3348-133-1	WHEEL (R) ASSY, CAPSTAN	
321	X-3348-110-1	LEVER ASSY, PICK UP	
322	3-348-113-01	BELT	
323	X-3348-139-1	WHEEL (N) ASSY, CAPSTAN	

No.	Part No.	Description	Remarks
324	3-704-244-63	SCREW (M1.7X4), TAPPING	
325	3-348-993-01	WASHER	
326	3-342-375-01	SCREW (M1.7X1.4), SPECIAL	
327	3-348-107-01	SPRING, COMPRESSION	
328	3-348-149-01	REEL, SUPPLY	
329	3-348-150-01	REEL, TAKE-UP	
330	3-348-171-01	COVER, MD	
331	3-704-381-51	SCREW (M1.4X3.5), TAPPING, PAN	
332	3-315-415-31	WASHER (1.5-2.3)	
333	3-342-369-01	GUIDE R, HOLDER	
334	3-342-368-01	GUIDE L, HOLDER	
335	3-348-138-01	BUTTON (FR)	
336	3-348-136-01	BUTTON (STOP)	
337	3-348-134-01	BUTTON (PLAY)	
338	3-348-129-01	BUTTON (OPEN)	
339	*3-348-959-01	PLATE (MOTOR), SHIELD	
342	3-348-989-01	SPRING, COMPRESSION	
343	3-348-990-01	WASHER	
344	3-331-007-21	WASHER	
345	3-350-989-01	WASHER	
M901	1-541-598-11	MOTOR, DC	
HP901	1-543-550-11	HEAD, MAGNETIC (PLAYBACK)	

5-3. MECHANISM SECTION-2 (MT-WM150-01)



No.	Part No.	Description	Remarks
351	3-348-101-01	RATCHET	
352	3-348-156-01	LEVER, DIR	
353	3-348-102-01	BUSHING	
354	3-348-105-01	LEVER, MODE SELECTION	
355	3-348-163-01	SPRING, TENSION	
356	*3-348-106-01	LEVER, TRIGGER	
357	3-348-953-01	WASHER	
358	3-348-109-01	GEAR, CAM	
359	3-338-645-21	WASHER (0.8-2.5)	
360	3-348-172-01	SPRING (S.OFF), TORSION	
361	3-348-110-01	PULLEY (MIDWAY)	
362	X-3348-105-1	CLUTCH ASSY	
363	X-3348-137-1	PULLEY (REVERSE) ASSY	

No.	Part No.	Description	Remarks
364	3-321-394-21	WASHER	
365	3-348-159-01	SPRING (NR), TORSION	
366	3-348-108-01	GEAR (N)	
368	*3-348-157-01	LEVER, SW	
369	X-3348-102-1	LEVER ASSY, LOCK	
370	3-348-162-01	SPRING (LOCK), TORSION	
371	3-348-103-01	SPRING (PLAY), TORSION	
372	3-348-160-01	SCREW (M1.4X1.3), PRECISION PAN	
373	X-3348-103-1	LEVER ASSY, FF	
374	3-348-168-01	SPRING (FR), TORSION	
375	X-3348-104-1	LEVER ASSY, REW	
376	X-3348-143-1	CHASSIS COMPLETE (B) ASSY	
377	3-348-953-21	WASHER	
378	3-348-996-01	WASHER	
379	3-348-996-11	WASHER	

SECTION 6
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF: μF, PF: μμF.

RESISTORS
- All resistors are in ohms.
- F: nonflammable

COILS
- MMH: mH, UH: μH

SEMICONDUCTORS
In each case, U: μ, for example:
UA...: μA..., UPA...: μPA...,
UPC...: μPC, UPD...: μPD...

Ref.No.	Part No.	Description		
C311	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V
C312	1-135-158-21	TANTAL. CHIP 15MF	20%	4V
C313	1-135-103-00	TANTAL. CHIP 3.3MF	20%	4V
C314	1-135-158-21	TANTAL. CHIP 15MF	20%	4V
C315	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V
C316	1-163-135-00	CERAMIC CHIP 560PF	10%	50V
C317	1-162-953-11	CERAMIC CHIP 100PF	5%	50V
C318	1-135-170-21	TANTAL. CHIP 6.8MF	20%	4V
C319	1-164-156-11	CERAMIC CHIP 0.1MF		25V
C321	1-162-964-11	CERAMIC CHIP 0.001MF	10%	50V
C401	1-135-170-21	TANTAL. CHIP 6.8MF	20%	4V
C402	1-135-087-21	TANTAL. CHIP 0.68MF	10%	20V
C403	1-163-077-00	CERAMIC CHIP 0.1MF	10%	25V
C404	1-135-099-00	TANTAL. CHIP 2.2MF	20%	6.3V
C405	1-162-638-11	CERAMIC CHIP 1MF		16V
C601	1-135-099-00	TANTAL. CHIP 2.2MF	20%	6.3V
C602	1-162-638-11	CERAMIC CHIP 1MF		16V
C801	1-135-070-00	TANTAL. CHIP 0.1MF	20%	35V
C802	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V
C803	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V
C804	1-164-156-11	CERAMIC CHIP 0.1MF		25V
C805	1-135-070-00	TANTAL. CHIP 0.1MF	20%	35V
C806	1-162-970-11	CERAMIC CHIP 0.01MF	10%	25V
C807	1-162-970-11	CERAMIC CHIP 0.01MF	10%	25V
C808	1-164-156-11	CERAMIC CHIP 0.1MF		25V
C809	1-135-170-21	TANTAL. CHIP 6.8MF	20%	4V
C810	1-162-964-11	CERAMIC CHIP 0.001MF	10%	50V
C811	1-164-156-11	CERAMIC CHIP 0.1MF		25V
C812	1-162-964-11	CERAMIC CHIP 0.001MF	10%	50V
D801	8-719-970-41	DIODE GL102R5S		
HP901	1-543-550-11	HEAD, MAGNETIC (PLAYBACK)		
IC301	8-759-230-93	IC TA7795FN-ER		
IC302	8-759-230-89	IC TA7793FN-EL		
IC303	8-759-805-09	IC CXA1249M		
IC304	8-759-805-02	IC LA4538M		
IC601	8-759-972-73	IC LAG674F		
J301	1-565-436-11	JACK (PHONES)		
PH401	8-759-710-34	DIODE, PHOTO NJL5161K-A		
M901	1-541-598-11	MOTOR, DC		
Q303	8-729-403-17	TRANSISTOR XN1215		
Q304	8-729-807-87	TRANSISTOR 2SB1295-UL6		
Q305	8-729-402-13	TRANSISTOR XN1501		

Ref.No.	Part No.	Description		
901	A-3070-246-A	MOUNTED PCB, AUDIO		
C101	1-162-963-11	CERAMIC CHIP 680PF	10%	50V
C102	1-162-963-11	CERAMIC CHIP 680PF	10%	50V
C105	1-135-158-21	TANTAL. CHIP 15MF	20%	4V
C106	1-163-016-00	CERAMIC CHIP 0.0039MF	10%	50V
C107	1-163-989-11	CERAMIC CHIP 0.033MF	10%	25V
C108	1-162-638-11	CERAMIC CHIP 1MF		16V
C109	1-163-020-00	CERAMIC CHIP 0.0082MF	10%	50V
C110	1-163-015-00	CERAMIC CHIP 0.0033MF	5%	50V
C111	1-135-091-00	TANTAL. CHIP 1MF	10%	16V
C112	1-163-021-00	CERAMIC CHIP 0.01MF	5%	50V
C113	1-135-145-11	TANTAL. CHIP 0.47MF	10%	25V
C114	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V
C115	1-162-964-11	CERAMIC CHIP 0.001MF	10%	50V
C116	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V
C117	1-162-953-11	CERAMIC CHIP 100PF	5%	50V
C118	1-164-156-11	CERAMIC CHIP 0.1MF		25V
C119	1-126-117-11	ELECT 330MF	20%	2V
C120	1-162-964-11	CERAMIC CHIP 0.001MF	10%	50V
C201	1-162-963-11	CERAMIC CHIP 680PF	10%	50V
C202	1-162-963-11	CERAMIC CHIP 680PF	10%	50V
C205	1-135-158-21	TANTAL. CHIP 15MF	20%	4V
C206	1-163-016-00	CERAMIC CHIP 0.0039MF	10%	50V
C207	1-163-989-11	CERAMIC CHIP 0.033MF	10%	25V
C208	1-162-638-11	CERAMIC CHIP 1MF		16V
C209	1-163-020-00	CERAMIC CHIP 0.0082MF	10%	50V
C210	1-163-015-00	CERAMIC CHIP 0.0033MF	5%	50V
C211	1-135-091-00	TANTAL. CHIP 1MF	10%	16V
C212	1-163-021-00	CERAMIC CHIP 0.01MF	5%	50V
C213	1-135-145-11	TANTAL. CHIP 0.47MF	10%	25V
C214	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V
C215	1-162-964-11	CERAMIC CHIP 0.001MF	10%	50V
C216	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V
C217	1-162-953-11	CERAMIC CHIP 100PF	5%	50V
C218	1-164-156-11	CERAMIC CHIP 0.1MF		25V
C219	1-126-117-11	ELECT 330MF	20%	2V
C220	1-162-964-11	CERAMIC CHIP 0.001MF	10%	50V
C302	1-135-157-21	TANTAL. CHIP 10MF	20%	4V
C303	1-162-964-11	CERAMIC CHIP 0.001MF	10%	50V
C304	1-135-131-11	TANTAL. CHIP 22MF	20%	4V
C305	1-135-131-11	TANTAL. CHIP 22MF	20%	4V
C306	1-162-964-11	CERAMIC CHIP 0.001MF	10%	50V
C307	1-163-077-00	CERAMIC CHIP 0.1MF	10%	25V
C308	1-135-103-00	TANTAL. CHIP 3.3MF	20%	4V
C309	1-163-077-00	CERAMIC CHIP 0.1MF	10%	25V
C310	1-135-157-21	TANTAL. CHIP 10MF	20%	4V

Ref.No.	Part No.	Description
Q307	8-729-807-87	TRANSISTOR 2SB1295-UL6
Q401	8-729-402-13	TRANSISTOR XN1501
Q402	8-729-807-87	TRANSISTOR 2SB1295-UL6
Q403	8-729-402-16	TRANSISTOR XN4608
Q404	8-729-402-13	TRANSISTOR XN1501
Q405	8-729-403-42	TRANSISTOR XN1401
Q406	8-729-905-99	TRANSISTOR DTC114TU
Q801	8-729-117-16	TRANSISTOR 2SA1611-M6
Q802	8-729-403-17	TRANSISTOR XN1215
Q803	8-729-403-17	TRANSISTOR XN1215
Q804	8-729-402-13	TRANSISTOR XN1501
Q805	8-729-403-17	TRANSISTOR XN1215
R101	1-216-837-11	METAL GLAZE 22K 5% 1/16W
R102	1-216-837-11	METAL GLAZE 22K 5% 1/16W
R103	1-216-845-11	METAL GLAZE 100K 5% 1/16W
R104	1-216-855-11	METAL GLAZE 680K 5% 1/16W
R105	1-216-839-11	METAL GLAZE 33K 5% 1/16W
R106	1-216-824-11	METAL GLAZE 1.8K 5% 1/16W
R107	1-216-825-11	METAL GLAZE 2.2K 5% 1/16W
R108	1-216-843-11	METAL GLAZE 68K 5% 1/16W
R109	1-216-839-11	METAL GLAZE 33K 5% 1/16W
R110	1-216-839-11	METAL GLAZE 33K 5% 1/16W
R111	1-216-994-11	METAL GLAZE 13K 5% 1/16W
R112	1-216-852-11	METAL GLAZE 390K 5% 1/16W
R113	1-216-829-11	METAL GLAZE 4.7K 5% 1/16W
R114	1-216-845-11	METAL GLAZE 100K 5% 1/16W
R115	1-216-833-11	METAL GLAZE 10K 5% 1/16W
R116	1-216-793-11	METAL GLAZE 4.7 5% 1/16W
R117	1-216-841-11	METAL GLAZE 47K 5% 1/16W
R118	1-216-821-11	METAL GLAZE 1K 5% 1/16W
R119	1-216-821-11	METAL GLAZE 1K 5% 1/16W
R201	1-216-837-11	METAL GLAZE 22K 5% 1/16W
R202	1-216-837-11	METAL GLAZE 22K 5% 1/16W
R203	1-216-845-11	METAL GLAZE 100K 5% 1/16W
R204	1-216-855-11	METAL GLAZE 680K 5% 1/16W
R205	1-216-839-11	METAL GLAZE 33K 5% 1/16W
R206	1-216-824-11	METAL GLAZE 1.8K 5% 1/16W
R207	1-216-825-11	METAL GLAZE 2.2K 5% 1/16W
R208	1-216-843-11	METAL GLAZE 68K 5% 1/16W
R209	1-216-839-11	METAL GLAZE 33K 5% 1/16W
R210	1-216-839-11	METAL GLAZE 33K 5% 1/16W
R211	1-216-994-11	METAL GLAZE 13K 5% 1/16W
R212	1-216-852-11	METAL GLAZE 390K 5% 1/16W
R213	1-216-829-11	METAL GLAZE 4.7K 5% 1/16W
R214	1-216-845-11	METAL GLAZE 100K 5% 1/16W
R215	1-216-833-11	METAL GLAZE 10K 5% 1/16W
R216	1-216-793-11	METAL GLAZE 4.7 5% 1/16W
R217	1-216-841-11	METAL GLAZE 47K 5% 1/16W
R218	1-216-821-11	METAL GLAZE 1K 5% 1/16W
R219	1-216-821-11	METAL GLAZE 1K 5% 1/16W
R301	1-216-079-00	METAL GLAZE 18K 5% 1/10W
R302	1-216-829-11	METAL GLAZE 4.7K 5% 1/16W
R303	1-216-825-11	METAL GLAZE 2.2K 5% 1/16W
R304	1-216-823-11	METAL GLAZE 1.5K 5% 1/16W
R305	1-216-845-11	METAL GLAZE 100K 5% 1/16W
R306	1-216-849-11	METAL GLAZE 220K 5% 1/16W
R307	1-216-839-11	METAL GLAZE 33K 5% 1/16W
R308	1-216-841-11	METAL GLAZE 47K 5% 1/16W
R309	1-216-833-11	METAL GLAZE 10K 5% 1/16W
R310	1-216-853-11	METAL GLAZE 470K 5% 1/16W
R313	1-216-823-11	METAL GLAZE 1.5K 5% 1/16W
R315	1-216-853-11	METAL GLAZE 470K 5% 1/16W

Ref.No.	Part No.	Description
R401	1-216-839-11	METAL GLAZE 33K 5% 1/16W
R402	1-216-839-11	METAL GLAZE 33K 5% 1/16W
R403	1-216-823-11	METAL GLAZE 1.5K 5% 1/16W
R404	1-216-833-11	METAL GLAZE 10K 5% 1/16W
R405	1-216-853-11	METAL GLAZE 470K 5% 1/16W
R406	1-216-833-11	METAL GLAZE 10K 5% 1/16W
R407	1-216-839-11	METAL GLAZE 33K 5% 1/16W
R408	1-216-833-11	METAL GLAZE 10K 5% 1/16W
R409	1-216-833-11	METAL GLAZE 10K 5% 1/16W
R410	1-216-837-11	METAL GLAZE 22K 5% 1/16W
R411	1-216-833-11	METAL GLAZE 10K 5% 1/16W
R412	1-216-821-11	METAL GLAZE 1K 5% 1/16W
R413	1-216-845-11	METAL GLAZE 100K 5% 1/16W
R414	1-216-855-11	METAL GLAZE 680K 5% 1/16W
R415	1-216-845-11	METAL GLAZE 100K 5% 1/16W
R416	1-216-853-11	METAL GLAZE 470K 5% 1/16W
R417	1-216-853-11	METAL GLAZE 470K 5% 1/16W
R601	1-216-833-11	METAL GLAZE 10K 5% 1/16W
R602	1-216-824-11	METAL GLAZE 1.8K 5% 1/16W
R603	1-216-819-11	METAL GLAZE 680 5% 1/16W
R604	1-216-301-11	METAL GLAZE 2.4 5% 1/10W
R801	1-216-824-11	METAL GLAZE 1.8K 5% 1/16W
R802	1-216-824-11	METAL GLAZE 1.8K 5% 1/16W
R804	1-216-833-11	METAL GLAZE 10K 5% 1/16W
R805	1-216-809-11	METAL GLAZE 100 5% 1/16W
R806	1-216-809-11	METAL GLAZE 100 5% 1/16W
R807	1-216-813-11	METAL GLAZE 220 5% 1/16W
R808	1-216-837-11	METAL GLAZE 22K 5% 1/16W
R809	1-216-837-11	METAL GLAZE 22K 5% 1/16W
R810	1-216-813-11	METAL GLAZE 220 5% 1/16W
R811	1-216-797-11	METAL GLAZE 10 5% 1/16W
RV101	1-238-202-11	RES, ADJ, METAL GLAZE 2.2K
RV201	1-238-202-11	RES, ADJ, METAL GLAZE 2.2K
RV301	1-238-200-11	RES, VAR, CARBON 10K/10K (VOLUME)
RV601	1-238-209-11	RES, ADJ, METAL GLAZE 470
S301	1-571-584-11	SWITCH, SLIDE (FWD/REV)
S302	1-571-275-41	SWITCH, SLIDE (TAPE)
S303	1-571-275-41	SWITCH, SLIDE (DOLBY NR)
S304	1-571-506-21	SWITCH, SLIDE (DBB)
S401	1-571-585-11	SWITCH, PUSH (1 KEY)(PLAY,FF/REW)
S402	1-571-583-11	SWITCH, LEAF (PLAY)
THP601	1-808-388-11	THERMISTOR, POSITIVE
THP602	1-808-501-11	THERMISTOR, POSITIVE

ACCESSORY & PACKING MATERIAL

1-550-405-11	CASE, BATTERY
1-526-565-00	(E) ··· AC PLUG ADAPTOR
1-528-231-11	BATTERY, NICKEL CADMIUM (NC-6WM)
1-528-234-11	(E) ··· BATTERY CHARGER (BC-7L)
1-528-251-11	(AEP) ···BATTERY CHARGER (BC-7S)
1-528-252-11	(UK) ···BATTERY CHARGER (BC-7S)
3-348-963-01	CASE, CARRYING
*3-348-977-01	CUSHION (UPPER)
*3-348-978-01	CUSHION (LOWER)
*3-348-979-01	(E) ··· INDIVIDUAL CARTON
*3-353-501-01	(AEP, UK) ···INDIVIDUAL CARTON
3-786-325-11	MANUAL, INSTRUCTION
8-952-260-92	(AEP, UK) ···HEADPHONE MDR-W10L/1 SET
8-952-350-90	(E) ··· EARPHONE MDR-E454 SET